The JumpCourt system can be tuned for different demand uses. Through engineering calculations it has been possible to generate minimum and maximum parameters for choosing the spring rate of the poles in relation to various versions of the JumpCourt system. The poles should be viewed as long tubular springs attached to an elevated diaphragm that also disperses, absorbs, and re-cycles the impact forces directed at the poles. The diaphragm also transfers these forces to the support system that maintains the diaphragm's elevation. The poles or tubular springs can be loaded by tightening the top strap which would push/pull the tubular springs downward and inward. This would make the JumpCourt system tighter/less flexible so that the impact forces from a focused strike point would transfer more quickly to the entire system than would be the case if the top strap were loosened, unloading tubular springs and allowing them more space to flex, thus delaying transfer time and making any impact with the net feel "softer" which would be better for lighter individuals. Loadlng the poles/tubular springs in this way works on the same principle as loading a bow for the purpose of shooting arrows. Another novel feature, when the poles begin to fatigue over time the top strap may be tightened to compensate for this increased flexibility and the net may be adjusted or trimmed (depending on the version of the JumpCourt and the net/woven fabric material used).

Poles can also be mounted inside the circumference of the frame making it easier to install the JumpCourt system where space is too limited for exterior mounted poles. This change however has little or no effect on the way the does system was designed to manage the forces of impact.

The net may be suspended on the inside or outside of the poles. The straps and shock cords that are wrapped around the foam and inline with it are not necessary when the net is installed outside the poles. Of course the top/bottom straps may still be tightened to load the tubular springs/poles, and the foam padding which surrounds the poles still acts like a shock absorber for the net which constitutes another novel feature. For example, an impact to the net at one spot would tension it around its entire circumference compressing the foam padding on all poles. The net may also be suspended inside one pole and outside the adjacent poles or in any other In/out configuration depending on the desired impact absorption qualities being sought-after in a particular JumpCourt design.

The trick to designing the JumpCourt system with poles/tubular springs connected at top with a flexible inelastic, semi elastic, or elastic top strap was to engineer it so that the impact forces transferring to the trampoline frame did so in a manner which took advantage of the structural strengths of the trampoline in its entirety.k None of the other artwork shows this kind of impact forces management system. For instance, if any impact to the net occurred at a midpoint between two poles and the top and bottom of the net, only the JumpCourt system could respond in the following manner. The tops of the poles/tubular springs are allowed to flex downward toward each other, toward the area of impact. This loading of tubular springs works on the same principle as loading a bow for the purpose of shooting arrows. This effect makes it possible for the JumpCourt system to conserve more of the impact force energy in the poles/tubular springs enabling the system to more efficiently re-cycle this energy back into the impacting body for the purpose of returning it to the trampoline surface. None of the other artwork cited which shows a safety fence connected to an elevated diaphragm demonstrates the ability of the poles to flex downward and toward each other at the same time and this is a signlficant difference between the art. Because the tops of the poles/tubular springs are connected by a flexible cord they are not as limited in their range of motion as would be the case if they were connected by an inflexible cord. This additional freedom of movement in the poles enables the net to more completely conform to the surface of an impacting body, distributing the forces of impact over a larger surface area on the body which reduces the likelihood of injury.

APPENDIX D

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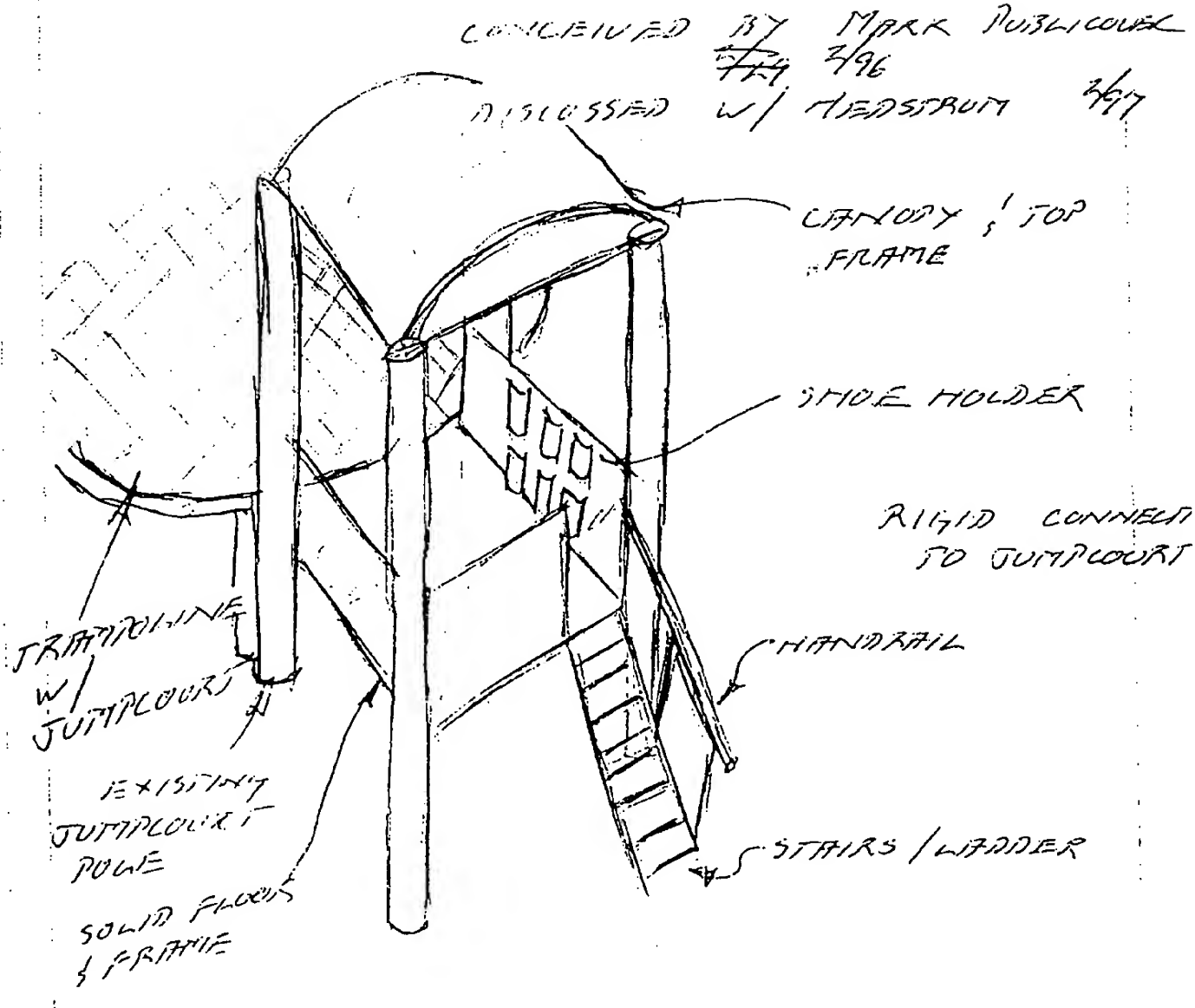
3/20/98 PLAY STRUCTURE



TO PROVIDE A TRANSITION STRUCTURE FOR ADJUSTING "SEA LEGS" WHILE MOVING TO & FROM TRAMPOLINE, REDUCING SPRAINS, FALLS, ETC.

STABILIZES, COUNTER-BALANCES & ANCHORS TRAMPOLINE & JUMPCOURT, STIFFENS & CONSTRAINS TRAMPOLINE FRAME TO PREVENT FATIGUE-CHIPPING OF FRAME

6/1

JUMPSPORT w/ SLIP-FIT POLES CONCEIVED & DISCUSSED BY MARK PUBLICOVER & TOM LYNCH (ALLIED STEEL) 10/15/97 (REF PERSONAL NOTEBOOK)

SWAGE JOINT ON STEEL POLES NOW REPLACED WITH SLIP-FIT JOINT

- INCREASED WALL THICKNESS AT HIGH-STRESS JOINT, REDUCING STRESS LEVEL

- REDUCED PACKAGING SIZE BY PACKAGING UPPER POLE INSIDE LOWER POLE INSIDE FOAM PADDING. PADDING PROTECTS SURFACE FINISH OF LOWER POLE EXTERIOR. SLIP-FITTING POLES REDUCES PACKAGE SIZE (& SHIPPING COSTS), REDUCES CRUSHING OF NON-STEEL PARTS (EG VIDEO TAPE), REDUCES MATERIAL MOVEMENT AND USE OF PACKAGE INSERTS. SLIP-FITTED POLES STIFFEN BOX, ALLOWING LIGHTER BOX MATERIAL W/ LESS REINFORCEMENTS, PREVENTS STACKED BOXES FROM CRUSHING LOWER BOXES. FOAM PADDING FRICTION FIT AGAINST LOWER SUPPORT TUBE PREVENTS TUBE MOVEMENT IN PACKAGING & SUBSEQUENT PUNCHING OUT OF BOX END.

- POLES ARE (PARTIAL) ASSEMBLED ALLOWING CONSUMER TO MEASURE POLE ASSY.

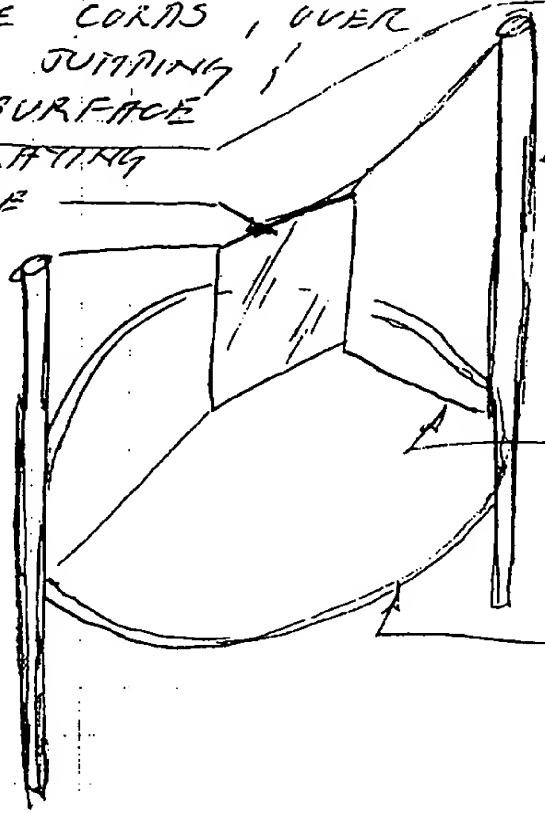
- SLIP-FIT BECOMES QUALITY INSPECTION, MAKING SURE POLES SLIP-FIT IN PACKAGING BEFORE

- CAPS FITTED MALE-FEMALE SINGLE STACK TO REDUCE PACKAGE SPACE.

- SLIP-FIT ALLOWS TUNING OF SPRING CHARACTERISTICS BY REDUCING OR CANTILEVER LENGTH. ALSO ALLOWS ATTACHMENT TO SHORT-LENGTH TRAMPOLINES BY INCREASING SLIP-FIT.

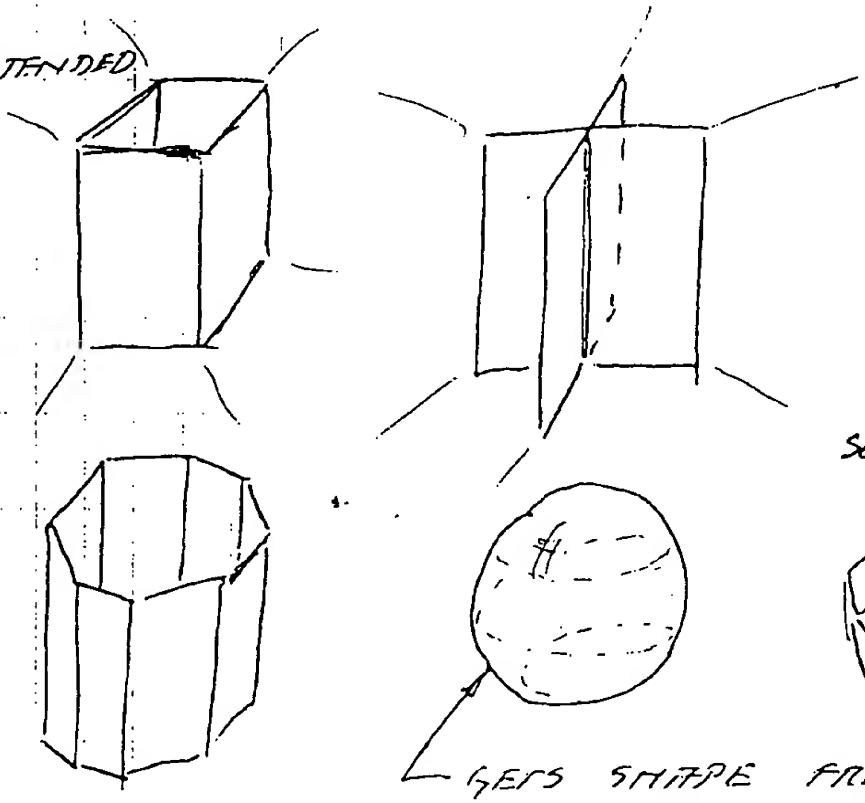
JUMP COURT GAMES - MARK PUBLICOVER, [illegible]

PLAYING SURFACES, SUSPENDED BY BUNGEE CORDS, OVER ELASTIC JUMPING / PLAYING SURFACE



ALTERNATE GAME PLAYING SURFACE CONFIGURATIONS

SIDES EXTENDED BY TENSION OF BUNGEE CORDS



SOLID POLYGON

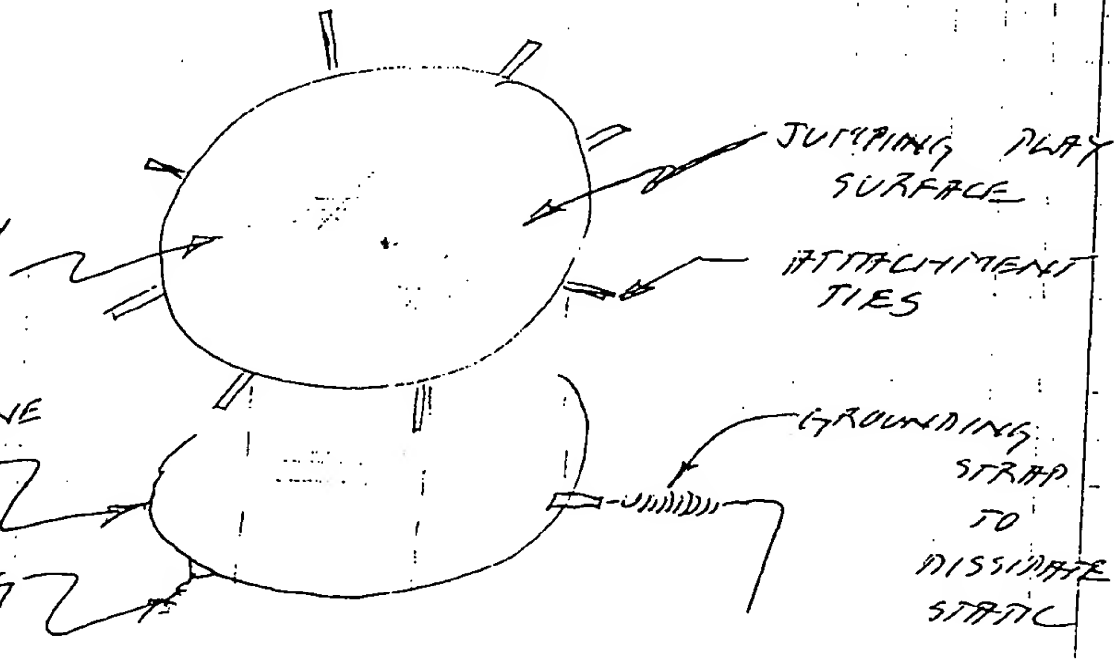
GETS SHAPE FROM SEWN-IN PLASTIC WIRE IN SPIRAL PATTERN

GAMES UTILIZE FABRIC (SMOOTH AND/OR NAPPED) SURFACE FOR STRUCTURED NON-ACROBATIC ~~GAME~~ ACTIVITIES, COMBINING EYE-HAND AGILITY WITH JUMPING & BOUNCING ON A JUMPING SURFACE

"PRE-SCHOOL PAK" CAN COMBINE ABOVE WITH EDUCATIONAL DIRECTION (LEARNING TO TELL TIME ON A CLOCK FACE, NORTH-SOUTH-EAST-WEST, NUMBERS, COLORS, ANIMALS, MATH ...)

GAMES REQUIRE JUMPING ON OR JUMPING TO REMOVE OR PLACE TOY MARKERS AS THE ANSWER, OR AS THE PLAYERS RESPONSE ("MOVE") IN THE GAME. GAMES COULD INVOLVE PLACING A MARKER TO TELL OR ILLUSTRATE A STORY.

JUMPING SURFACE GAMES

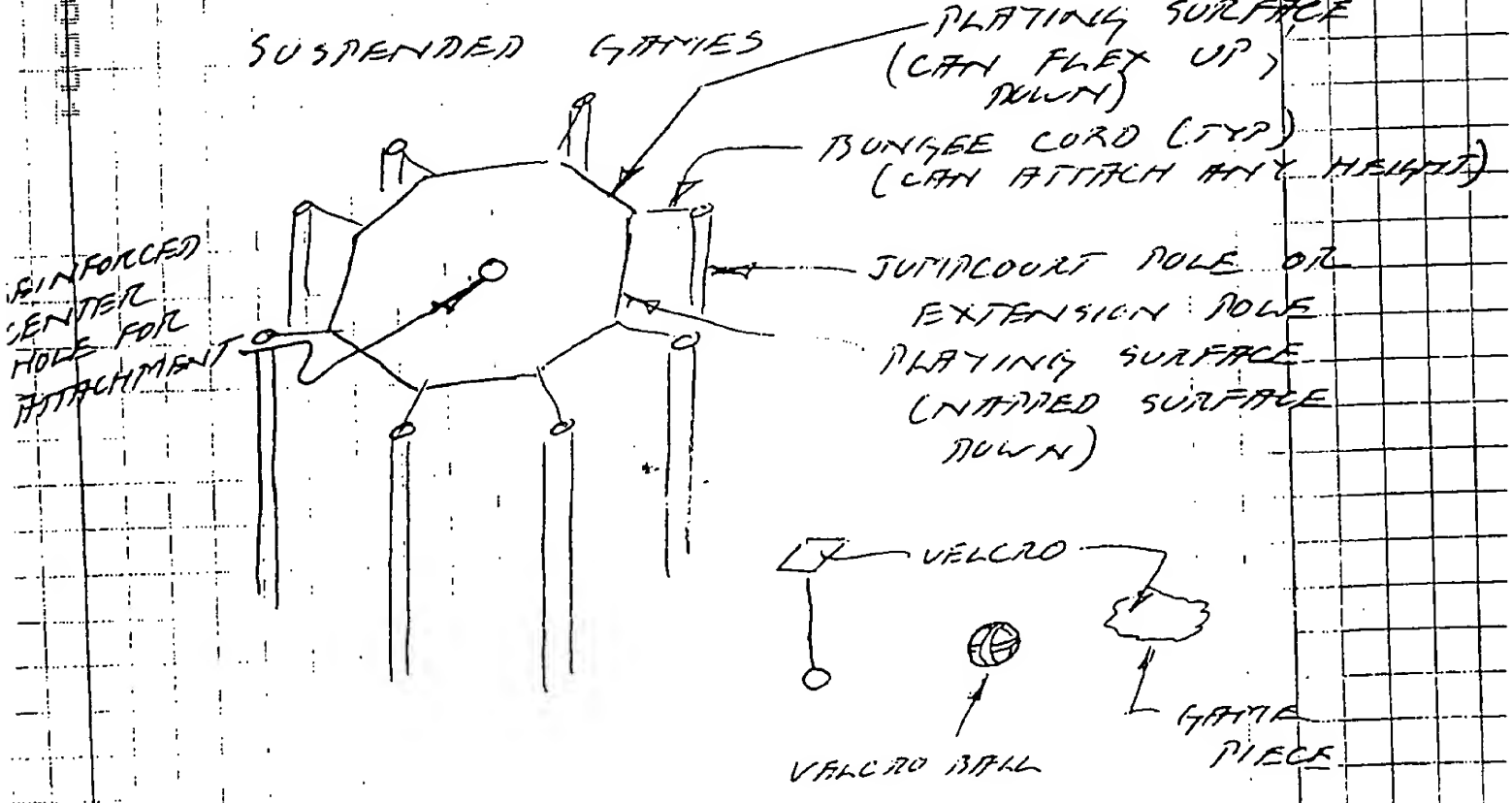


STATIC ELECTRICITY DISSIPATION CAN BE THROUGH GROUNDING STRAP, CONDUCTIVE COATING, STATIC GROUNDING STRAP, OR USE OF LUBRICANT (WATER, BABY POWDER, ETC) BETWEEN BED & PLAYING SURFACE

GAME PIECES MAY BE MAGNETICALLY OR VELCRO ATTACHED (HOOK FASTENERS ON GAME PIECES, NAPPED SURFACE ON GAME PLAY SURFACE)

ATTACHMENT TIES (BUNGEE, VELCRO OR FABRIC) TIE JUMPING SURFACE TO EXISTING TRAMPOLINE-TO-SPRING CONNECTIONS / LOOPS.

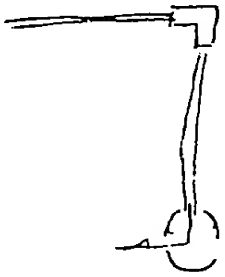
SUSPENDED GAMES

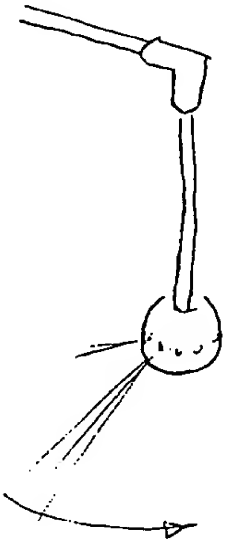


WATER - STREAM TOYS

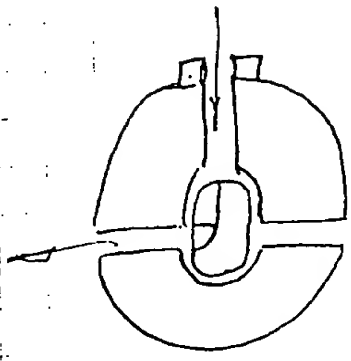
USING WATER STREAM, FROM SINGLE OR MULTIPLE JET HEAD WITH SELECTABLE SPRAY PATTERNS, FOR JUMPING GAMES.

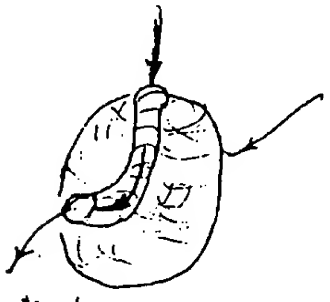
WATER SPRAY WILL OSCILLATE FROM FIXED OR MOVING POSITION, WITH CONSTANT, VARYING OR INCREASING ROTATION RATE. FLOW RATE INCREASES ROTATION RATE, OR ROTATION RATE INCREASES INCREMENTALLY WITH EACH ROTATION (CLOCKWORK MECHANISM)



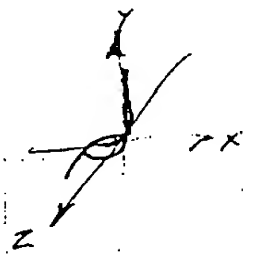


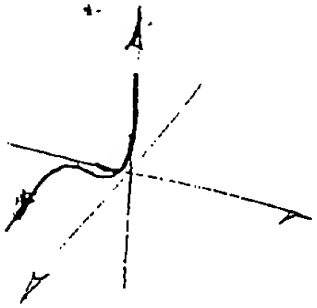
WATER SPRAY ROTATES OR RANDOMLY SELECTS SPRAY MODE



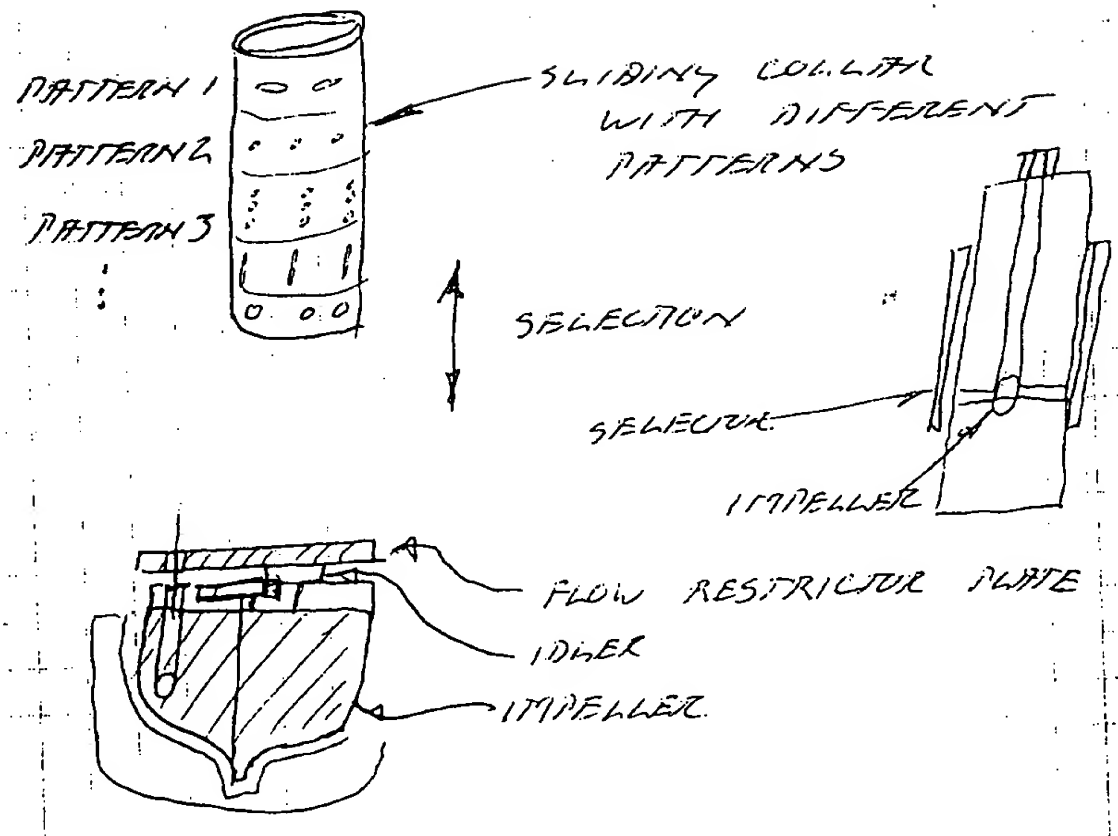


ROTATING SELECTOR IMPELLER (FLOW COMES IN FROM Y AXIS, EXITS IN X-Z PLANE OFF-AXIS TO PROVIDE ROTATION OF IMPELLER)





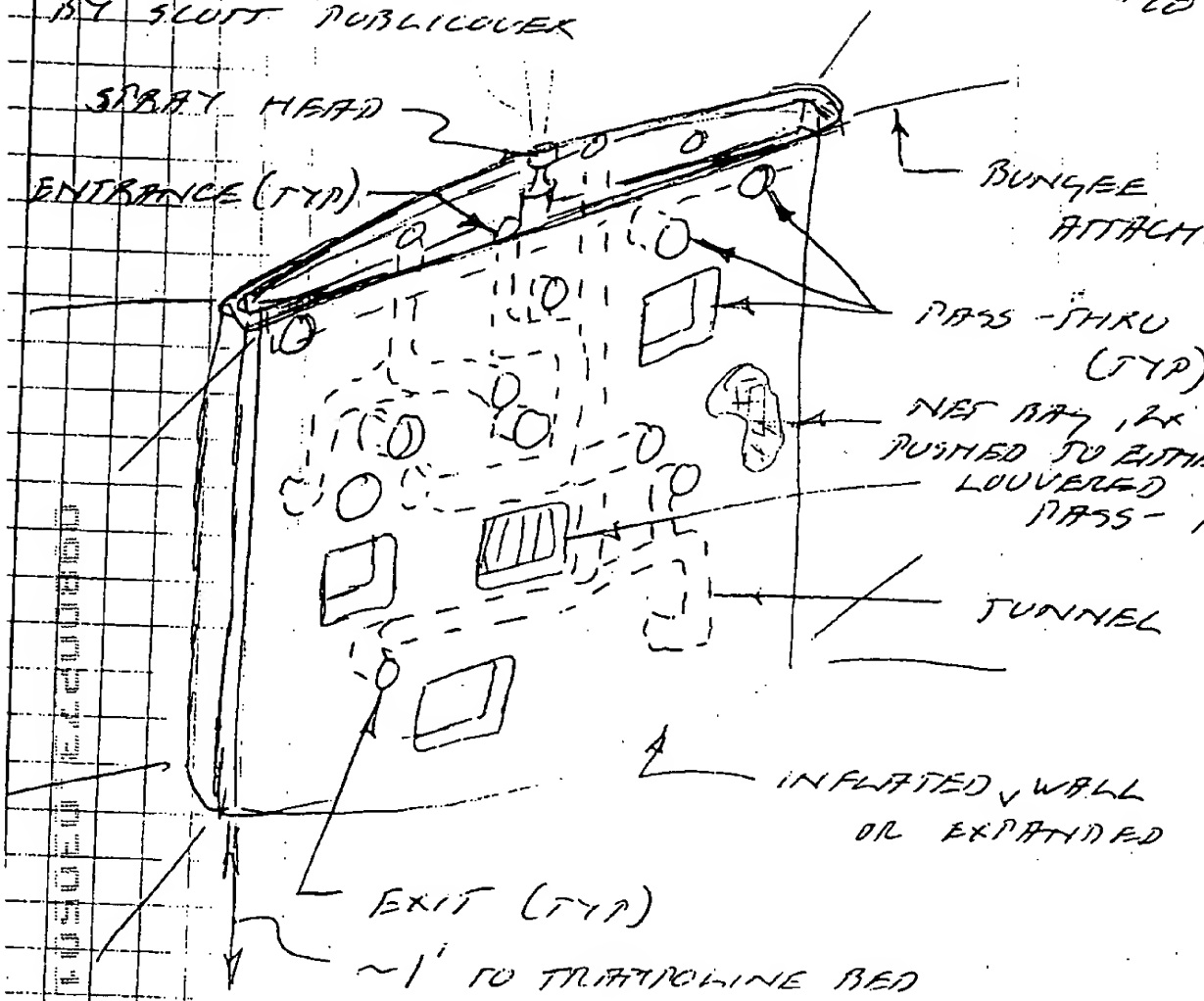
27



FLOW RESTRICTOR IS AN ECCENTRICALLY ROTATING PLATE DRIVEN THROUGH A GEARTRAIN TO PRESENT A CONSTANTLY CHANGING FLOW OPENING, INCREASING OR DECREASING THE STRENGTH OF THE WATER JET. AT THE SAME TIME, THE IMPELLER (WHICH DRIVES THE FLOW RESTRICTOR PLATE GEARTRAIN) RE-DIRECTS THE FLOW DIRECTION THROUGH THE SELECTED SPRAY PATTERN JET.

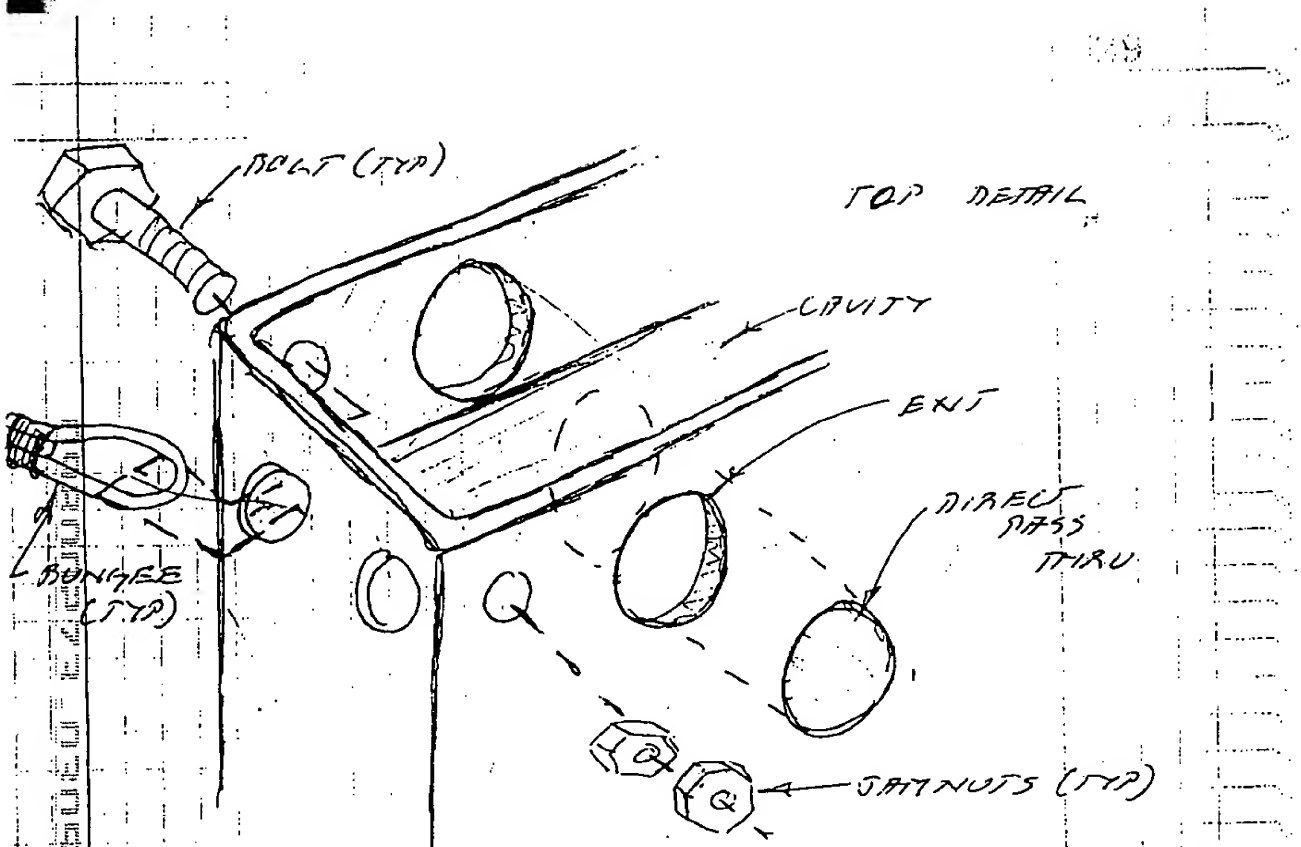
SCOTT'S GAME WALL 6/4/98

BY SCOTT PUBLICOVER

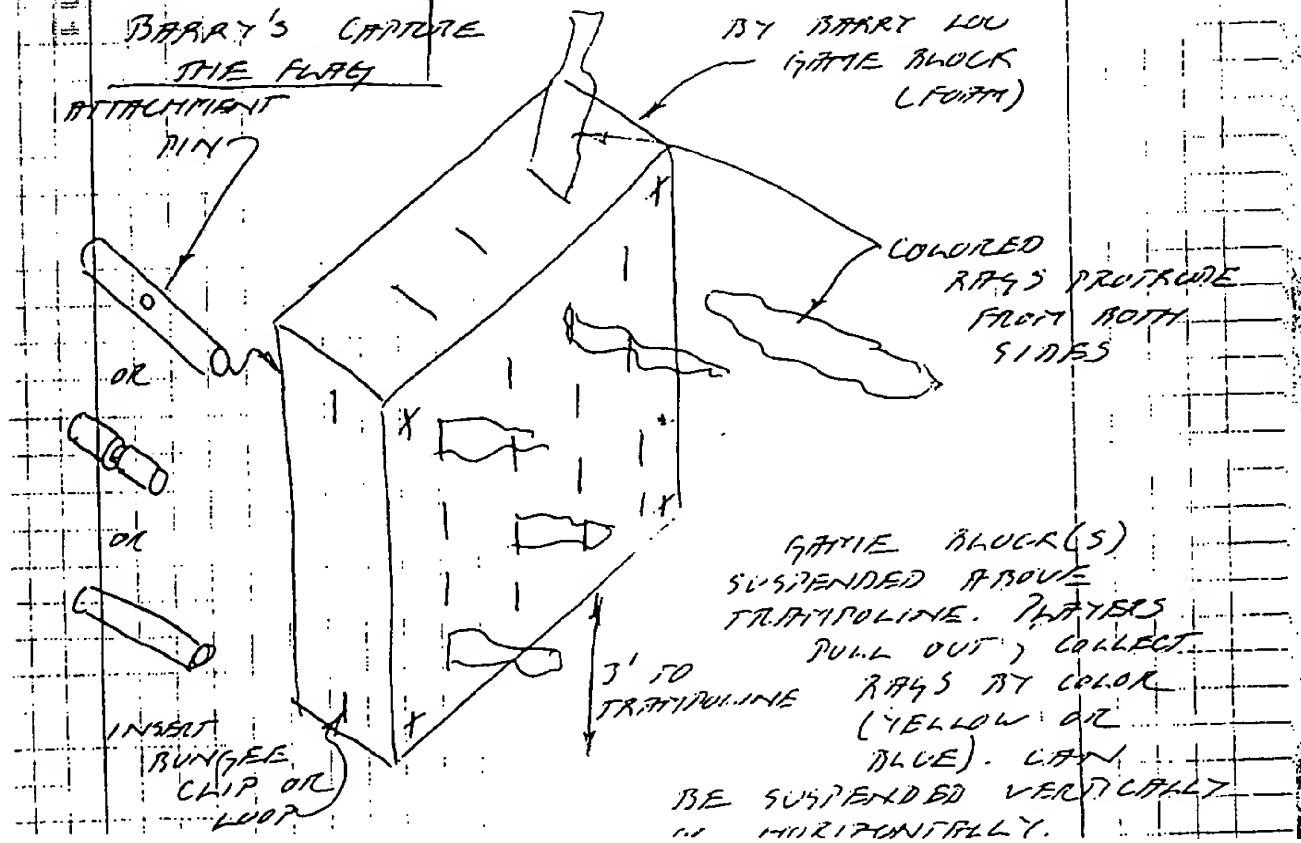


INFLATED STRUCTURE, SUSPENDED BY BUNGEE CORDS, WITH INTERNAL TUNNELS & PASS-THROUGHS. WATER SPRAY HEAD ON TOP SPRAYS PLAYERS, ALLOWS WATER TO FLOW THROUGH TUNNELS, RANDOMLY CHANGING PATH OF BALLS FALLING THRU TUNNELS.

BALLS CAN BE PASSED THRU FROM SIDE TO SIDE, OR FALL FROM TOP CAVITY THRU TUNNELS. BALLS CAN END UP ON EITHER SIDE OF WALL



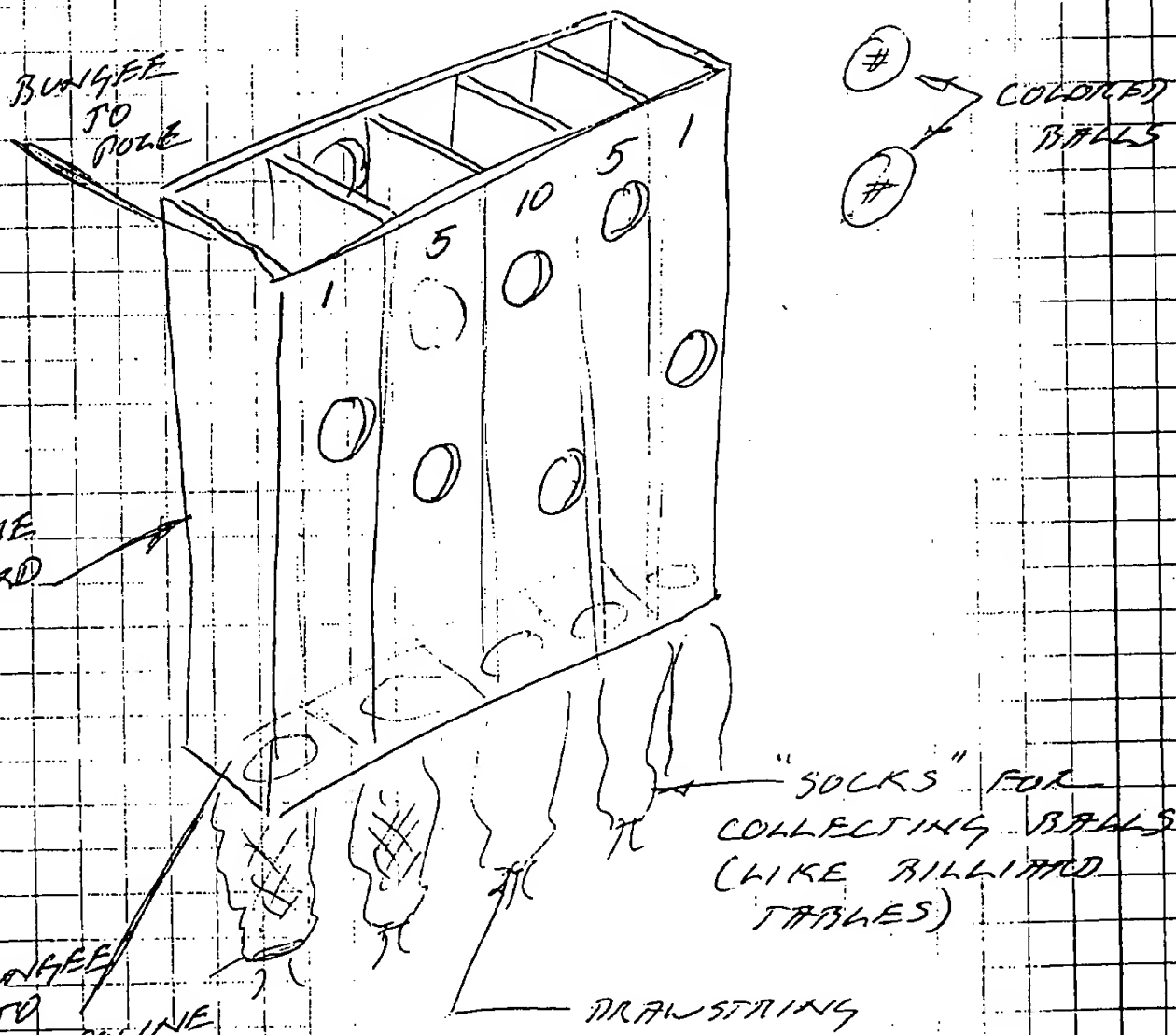
BARRY'S CANNON
THE FLAG



GATTE BLOCK(S) SUSPENDED ABOVE TRAMPOLINE. PLAYERS PULL OUT) COLLECT RAGS BY COLOR (YELLOW OR BLUE). CAN BE SUSPENDED VERTICALLY OR HORIZONTALLY.

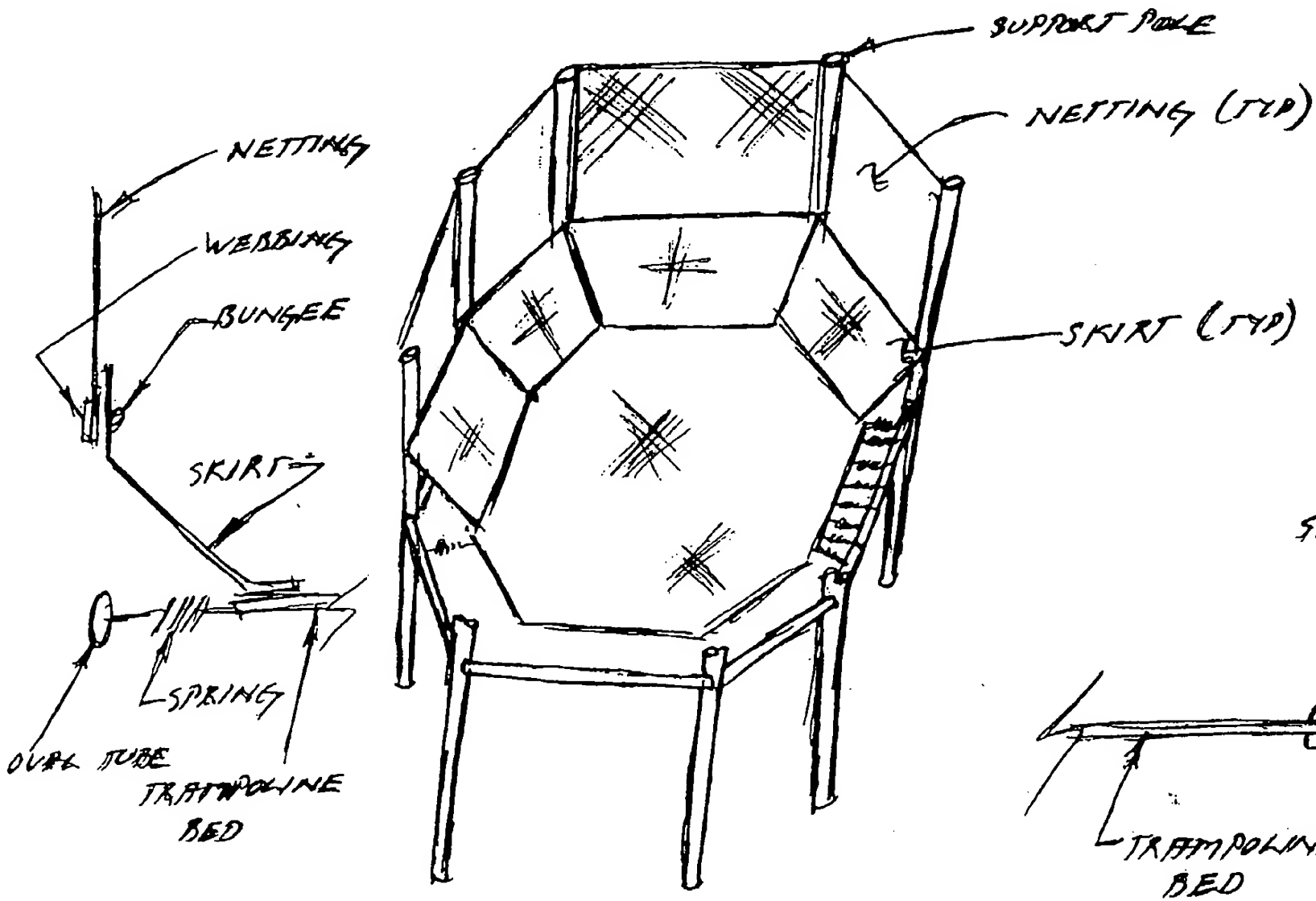
6/4/98

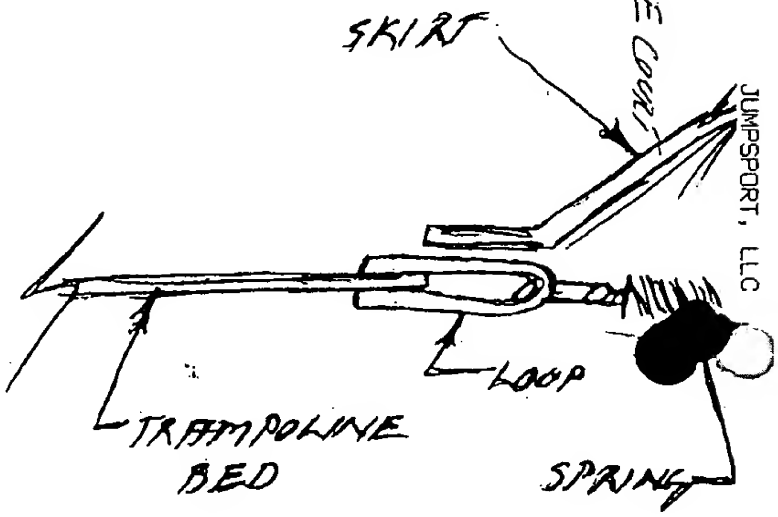
JUMPCOURT PINBALL
SCOTT PUBLICOVER
WITH BARRY LEE



PLAYERS PLAY AGAINST THE CLOCK TO BE FIRST TO PUT ALL THEIR BALLS INTO GAME ~~HIGHEST POINT~~ BOARD AND/OR ACCUMULATE HIGHEST POINTS.

GAME BOARD IS ATTACHED TO TRAMPOLINE BED; MOVES IN RESPONSE TO JUMPERS, CAUSING FALLING BALLS TO JUMP & FALL OUT OF GAME BOARD





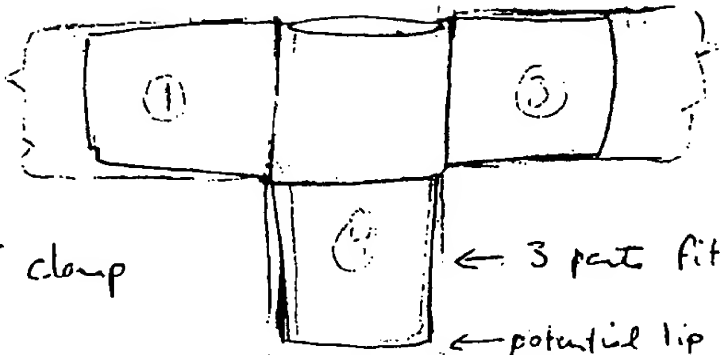
SKIRTED TRAMPOLINE COVER

6/4/98 Blue

6/4/98

"Clam Shell - T" Version #3 Weldless / Toolless.

Side view



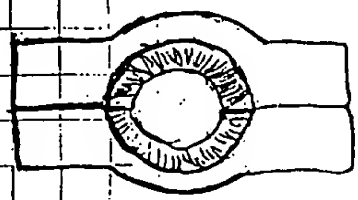
← 3 part fit tightly together

← potential lip or closed end

Tubes 1, 2, + 3 fit over the 2 pieces of the cross clamp. Pipe (4) slide down into the T clamp and tube 2.

The upper portion of the former cross clamp is no longer needed as the strength comes from the joining of all parts and the overlap of 3 parts in the leg. Tube four may rest on a lip in the leg of the portion of the T clamp.

View from top



with this Clam Shell T, no tube would need swaging